

# **Dr.N.S.Basavarajappa**

Associate professor

Department of Mathematics

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## **RESEARCH INTEREST :**

Differential Geometry, Graph Theory.

**TEACHING EXPERIENCE:** 22 years of teaching experience and 16 years in research

Worked as:

- Lecturer from Sep 1999 to Sep 2002 at Bangalore college of Engineering and Technology, Bangalore.
- Lecturer from Sep 2002 to Sep 2003 at Jnana Vikas Institute of Technology, Bangalore
- Senior lecturer from Sep 2003 to Sep 2007 at BTL Institute of Technology & Management, Bangalore
- Assistant Professor from Sep 2007 to Dec 2009 at Sri Bhagavan Mahaveer Jain College of Engineering, Bangalore.
- Assistant Professor from Jan 2010 to Aug 2012 at Bapuji Institute of Engineering and Technology Davangere from Jan 2010 to Aug 2012
- Associate Professor from Sep 2012 to till date.

## **EDUCATION**

- Ph.D [Mathematics] from Kuvempu University, Shankarghatta, 2009.
- M.Sc (Mathematics) from Kuvempu University, Shankarghatta, 1999 with first class.
- B.Sc (Mathematics, Chemistry & Physics) from Kuvempu University, Govt. Science College, Chitradurga, 1996 with second class.

## **PROFESSIONAL MEMBERSHIP:**

- Life Member of Indian Society for Technical Education (**LM70917**).

## **PUBLICATIONS**

- 1) M.C. Shanmukha, **N.S. Basavarajappa**, K.N. Anil Kumar, A Usha, “[Molecular structure investigation of Anticancer drugs by topological indices](#)”, Italian Journal of Pure and applied Mathematics (Scopus), Vol. 46 (2021), 972-983.
- 2) M.C. Shanmukha, A. Usha, **N.S. Basavarajappa**, K.C. Shilpa, “[Graph entropies of porous graphene using topological indices](#)”, Computational and Theoretical Chemistry (Elsevier), Vol. 1197, (2021), 113142, <https://doi.org/10.1016/j.comptc.2021.113142>, (IF- 1.926).
- 3) M.C. Shanmukha, A. Usha, **N.S. Basavarajappa**, K.C. Savitha, K. C. Shilpa, “[A general neighborhood redefined Zagreb index on Boron Nanotubes](#)”, Malaya Journal of Matematik (MJM), Vol.9, No.1, (2021), pp.836-843, <https://doi.org/10.26637/MJM0901/0147>, (IF- 4.529).
- 4) K.N. Anil Kumar, M.C. Shanmukha, **N.S. Basavarajappa**, C.M. Veena, K.C. Shilpa, “[Cyclohexane based isomers discrimination using topological indices](#)”, Malaya Journal of Matematik, Vol. 9, No.1, (2021), pp. 524-532, <https://doi.org/10.26637/MJM0901/0088> (IF- 4.529).
- 5) M.C. Shanmukha, **N.S. Basavarajappa**, A.Usha, K.C.Shilpa, “[Novel neighbourhood redefined first and second Zagreb indices on carborundum structures](#)”, Journal of Applied Mathematics and Computing (Springer), Vol. 66, (2020), pp. 263-276, <https://doi.org/10.1007/s12190-020-01435-3> (IF- 0.967)
- 6) M.C. Shanmukha, A. Usha, **N.S. Basavarajappa**, K.C. Shilpa, “[M-Polynomials and Topological Indices of Styrene-Butadiene Rubber\(SBR\)](#)”, Polycyclic Aromatic Compounds (Taylor and Francis), (2020), pp.1-16 <https://doi.org/10.1080/10406638.2020.1852283>, (IF- 1.44)
- 7) **N.S. Basavarajappa**, M.C. Shanmukha, K.M. Niranjan, K.C.Shilpa, “[Dakshayani Indices on Carbon and Boron Nitride Nanotubes](#)”, Letters in Applied NanoBioScience, Vol. 9 No.4, (2020), pp. 1680 – 1686, <https://doi.org/10.33263/LIANBS94.16801686>.
- 8) M.C. Shanmukha, **N.S. Basavarajappa**, K.N. Anil Kumar, K.C. Shilpa, “[Generalized reciprocal sanskruti index: chemical applicability and bounds](#)”, Letters in Applied NanoBioScience, Vol. 9 No.4, (2020), pp. 1595-1601 <https://doi.org/10.33263/LIANBS94.15951601>.
- 9) K.N. Anil Kumar, **N.S. Basavarajappa**, M.C. Shanmukha, A. Usha, “[Reciprocal Atom-bond connectivity and Fourth Atom-bond connectivity indices for Polyphenylene structure of molecules](#)”, Eurasian Chemical Communications, Vol. 2, (2020), pp. 1202-1209, <https://doi.org/10.22034/ECC.2020.255902.1095>

- 10) K.N. Anil Kumar, N.S. Basavarajappa, M.C. Shanmukha, K.C. Shilpa, "Degree-Based Topological Indices on Asthma Drugs with QSPR Analysis during Covid-19", *European Journal of Molecular & Clinical Medicine*, Vol. 7 No. 10, (2020), pp. 53-66. (IF- 8.11)
- 11) M.C. Shanmukha, **N.S. Basavarajappa**, K.C. Shilpa, A. Usha, "Degree based topological indices on anticancer drugs with QSPR analysis", *Heliyon*(Cell Press), Vol. 6, (2020) e04235, <https://doi.org/10.1016/j.heliyon.2020.e04235>, (IF- 1.857)
- 12) M.C. Shanmukha, **N.S. Basavarajappa**, K.N. Anil Kumar, A. Usha, "Degree based topological indices for DOX-loaded PEG-PASP polymer". *Jnanabha*, Vol. 50 No.1, (2020) pp. 92-104.
- 13) M.C. Shanmukha, K.N. Anil Kumar, **N.S. Basavarajappa**, K.M. Niranjana, "Topological indices on properties of line graph of subdivision of plane graphs", *Advances in Mathematics: Scientific Journal*, Vol. 9 No. 4, (2020), pp. 2121-2135, <https://doi.org/10.37418/amsj.9.4.72>, (IF- 1.494) .
- 14) K.N. Anil Kumar, **N.S. Basavarajappa**, M.C. Shanmukha, "QSPR analysis of Alkanes with certain degree based topological indices". *Malaya Journal of Matematik*, Vol. 8, No. 1, (2020) pp. 314-330. <https://doi.org/10.26637/MJM0802/0003>, (IF-4.529).
- 15) M.C. Shanmukha, **N.S. Basavarajappa**, K.N. Anilkumar, "Predicting Physico-chemical Properties of Octane isomers using QSPR approach", *Malaya Journal of Matematik*, Vol. 8, No. 1, (2020) pp. 104-115, <https://doi.org/10.26637/MJM0504/0018>, (IF-4.529).
- 16) **N.S. Basavarajappa**, K.N. Anil Kumar, "Conservative concircular curvature Tensor with respect to semi-symmetric metric connection on K – Contact and Trans-Sasakian Manifolds", *Int. Jour of Latest Tech. in Engineering Management and Applied Sciences*, Vol. 4, No. 3, (2015), pp. 104-109. (IF- 5.471)
- 17) **N.S. Basavarajappa**, C.S. Bagewadi, D.G. Prakasha, "some results on Lorentzian  $\beta$ -Kenmotsu manifolds", *Annals of the University of Craiova. Math. Comp. Sci. Ser*, Vol-35, (2008), pp.7-14.
- 18) D.G. Prakasha, C.S. Bagewadi, **N.S. Basavarajappa**, "on Pseudo symmetric Lorentzian  $\alpha$ -Sasakian manifolds", *Int. Jour. Pure and Applied Mathematics*, Vol. 48, No.1, (2008), pp.57-65.
- 19) C.S. Bagewadi, D.G. Prakasha, **N.S. Basavarajappa**, "On Lorentzian  $\beta$  - Kenmotsu manifolds", *Int. Jour. Math. Analysis*, Vol. 2, No.19, (2008), pp.919-927.
- 20) C.S. Bagewadi, **N.S. Basavarajappa**, D.G. Prakasha, Venkatesha, "Some results on K-contact and Trans- Sasakian manifolds", *European Jour.of Pure and Appl. Math*, Vol. 1, No 2, (2008), pp. 21-31,
- 21) C.S. Bagewadi, **N.S. Basavarajappa**, D.G. Prakasha, "On Weakly symmetric and special weakly Riccissymmetric Lorentzian  $\alpha$ -Sasakian manifolds", *Analele Universitatii de vest.*, XLVI 1 (2008), pp. 3-12.

- 22) C.S. Bagewadi, **N.S. Basavarajappa**, Venkatesha, “On LP Sasakian manifolds”, Scientia, Series A, Math. Science. Vol.16, (2008), pp.1-8.
- 23) C.S. Bagewadi, **N.S. Basavarajappa**, Venkatesh, “On Para-Sasakian manifolds”, Journal of Analysis & Computation, Vol. 3, No. 2, (2007), pp.127-133.
- 24) C.S. Bagewadi, **N.S. Basavarajappa**, D.G. Prakasha, Venkatesha, “On 3-dimensional Para-Sasakian manifolds”, Int. e-Jour. Engg. Math. Theory & Appl., Vol. 2, (2007), pp.110-119.

### **PAPER PRESENTED IN CONFERENCES/ SEMINAR/WORKSHOP**

- 1) Paper entitled “**Some results on Lorgentzian  $\alpha$ -sasakian manifolds**” in International conference on Differential Geometry, Analysis and Fluid mechanics organized by department of P G Studies and Research in Mathematics Kuvempu University, Shankaraghatta, Shimoga from 4<sup>th</sup> to 5<sup>th</sup> February, 2016.
- 2) Paper entitled “**On K-Contact and Trans-Sasakian manifolds**” in National conference on Advances in Geometry Analysis and Fluid Mechanics organized by Department of P G Studies and Research in Mathematics Kuvempu University, Shankaraghatta, Shimoga from 26<sup>th</sup> and 27<sup>th</sup> August 2014.
- 3) Paper entitled “**Torseforming vector fields in a 3-dimentional para sasakian manifold**” in UGC sponsored National Conference on Geometry, Analysis and Fluid Mechanics organized by Department of Mathematics, Govt. First Grade College, Koppa from 20<sup>th</sup> to 21<sup>st</sup> September 2013.

### **SHORT TERM COURSES/WORSHOPS ATTENDED**

- Online webinar on “Teaching & Learning Process, Course Outcomes and Program Outcomes ” on 04/07/2020 at GMIT, Davangere.
- Participated in National webinar on GeoGebra : An Effective Tool For Mathematics Teaching” organized by Department of Mathematics on 03 July ,2020 at Manvi.
- “**National Webinar on Fluid Mechanics and its Applications in Engineering Science**” held during 24<sup>th</sup> to 27<sup>th</sup> June -2020 at Department of Mathematics, PES Institute of Technology and Management, Shivamogga, Karnataka.
- Webinar on “**Biofuel - A Promising Alternative Fuel**” held on **22<sup>nd</sup> June, 2020** at Department of R & D and Chemistry, **Don Bosco Institute of Technology, Bengaluru** in association with Institution of Engineers (India), KSC and IEEE.
- Webinar on “**Applications of Differential Equations**” on **19th June 2020** at Department of Mathematics, **Cambridge Institute of Technology North Campus Kundana, Bengaluru-562110.**
- Online one week Faculty development Programme on “**Recent Advances in Material**

**Science and Mathematical Application”** held during **15th June to 19th June 2020** organized by Department of Basic Science, **Ghousia College of Engineering, Ramanagara-562159**, Karnataka, India.

- Webinar on **“Boost your Immune system by Natural-Biotics”** on **12<sup>th</sup> June 2020** at Department of Chemistry, **RV College of Engineering**, Bengaluru-59, Karnataka.
- Three days **Faculty Development Programme** for Student Induction (FDP-SI) held on **7-9 June 2018** at KLS GIT, Belagavi Organized by AICTE, New Delhi, India
- Two days works shop on **“Advanced Mathematical Techniques in Research and Engineering Applications** held on **29<sup>th</sup> and 30<sup>th</sup> January 2018** at GMIT, Davangere, Karnataka, India
- Four days symposium on **Linear Algebra and its applications in Computer Vision** held on **13<sup>th</sup> to 16<sup>th</sup> July, 2016** at JSS Academy of Technical Education, Bangalore.
- Two days national conference on **“Mathematics and its applications”**held on **22<sup>nd</sup> and 23<sup>rd</sup> December 2015** at Adhichunchanagiri Institute of Technology, Chikkamangalore.
- One day workshop on **Basic Science Syllabus for BE Programme** of VTU held on **28<sup>th</sup> August 2014** at UBDT College of Engineering, Davangere.
- Two day Conference on **“Advances in Geometry, Analysis and Fluid Mechanics”** held on **26<sup>th</sup>& 27<sup>th</sup> August 2014**at Dept. of Mathematics, Kuvempu University, JnanaSahyadri, Shakaraghatta, Shivamogga
- Two day UGC sponsored national conference on **“Geometry, Analysis and Fluid Mechanics”**held on **20<sup>th</sup>& 21<sup>st</sup> September 2013** at Govt. First Grade College Koppa
- One day UGC sponsored national conference on **“Mathematical Sciences and Applications”** held on **9<sup>th</sup> March 2013** at Govt. First Grade College Koppa.
- Organized one day ISTE sponsored **“Ramanujan Mathematics Awareness Programme”** on **1<sup>st</sup> March 2013** in the Dept. of Mathematics, Bapuji Institute of Engineering & Technology, Davangere.
- One day Workshop on **“ Mathematics & its Applications in Engineering “** held on **18<sup>th</sup> February 2010** at Bapuji Institute of Engineering & Technology, Davangere.
- One day Seminar on **“Recent Trends in Mathematics”** held on **5<sup>th</sup> May 2008** at Kuvempu University, JnanaSahyadri, Shakaraghatta, Shivamogga.
- One-day workshop on **“Recent Development in Mathematics”** held at **Govt. Science College Bangalore on 30<sup>th</sup> March 2007.**
- One-day workshop on **“Computational Fluid Dynamics”** held at P.G Dept. of Mathematics, M.E.S. College Bangalore on **10<sup>th</sup> March 2007.**
- The **“19<sup>th</sup> International Conference of the Jangjeon Mathematical Society”** Organized byDept. of Mathematics, Central College Campus, Bangalore University Bangalore, held on **22<sup>nd</sup> to 24<sup>th</sup> February 2007.**
- A Symposium on **“Applied Mathematics in Engineering Technology”** held on **16<sup>th</sup> Dec 2006** at BNMIT Bangalore.
- One day Workshop on **revised syllabus of Engineering Mathematics I/II**, held at Reva Institute of Technology and Management Bangalore on **9<sup>th</sup> September 2006.**
- One-day workshop on **“Application of Science in Engineering and Technology”** at Ghousia College of Engineering Ramnagaramon **7<sup>th</sup> May 2005.**
- A national Seminar on **“Recent Developments on Mathematics and its Applications” (RDMA 2005)** held in the Dept. of Mathematics, University of North

Bengal. Darjeeling during **20<sup>th</sup> to 22<sup>nd</sup> January 2005**.

- A national Conference on **“Geometry, Analysis, Fluid Mechanics and Computer Applications”** held on **9<sup>th</sup> to 11<sup>th</sup> December 2004** at Kuvempu University.
- Two day seminar on **“Engineering Mathematics”** held on **5<sup>th</sup> and 6<sup>th</sup> Nov 2004** at Sambhram Institute of Technology Bangalore.
- Three day national workshop on **“Applications of Mathematics in Engineering and Technology”** from **1<sup>st</sup> to 3<sup>rd</sup> October 2004** at A.I.T Chikmagalore.
- The QIP short term course on **Mathematical Modeling of Engineering Systems** at IIT Delhi, from **14<sup>th</sup> to 18<sup>th</sup> June 2004**.

#### **Seminars/Workshops/Events Organized:**

- Organized Two days National level Webinar on **“Advances in Mathematical Sciences and its Applications in Engineering and Research (AMSAER)-2021”** by Department of Mathematics, Bapuji Institute of Engineering & Technology, Davangere, Karnataka on **11<sup>th</sup> and 12<sup>th</sup> July 2021**.
- Organized Student Induction Program Phase II for First Year students from **10-02-2020 to 15-02-2020**
- Organized National Mathematics Day in the Department of Mathematics, BIET on **28.12.2019**
- Organized Student Induction Program Phase I for First Year students from **01-08-2019 to 10-08-2019**
- Coordinator for Student Induction program from **2018-19 and 2019-20**.
- Organized **“Technology barrier reduction program (TBRP)”** held at Bapuji Institute of Engineering and Technology, Davangere from **22<sup>nd</sup> April 2019 to 10<sup>th</sup> May 2019**
- Conducted National Mathematics Day on **27<sup>th</sup> December, 2018**.
- Attended meeting of **“Technology Barrier Reduction Programme”(TBRP)** for Rural Government high school students under Foundation for advanced Educational Research (FAER) sponsored by ZEBRA technologies at Bangalore on **29<sup>th</sup> November, 2018**
- Worked as Organizing Secretary for **“One day workshop on Recent Trends on the Applications of Science in Engineering”(NCRSE-2018)** on **28<sup>th</sup> September, 2018** at BIET, Davanagere
- Organizing Secretary for **“One day workshop on Recent Trends on the Applications of Science in Engineering” (NCRSE-2018)** on **28<sup>th</sup> September, 2018** at BIET, Davanagere
- Organized KSCST Seminar cum Project exhibition on **10<sup>th</sup> & 11<sup>th</sup> August 2018** at BIET, Davanagere .
- Dr. K.S.Basavarajappa (as coordinator) and all faculties were involved for successful conduction of **“Technology Barrier Reduction program (TBRP)”** by Foundation for advancement of Education and Research (FAER)”. Participants were from rural Government High School, Kannada medium at BIET, Davangere from **16-04-2018 to 04-05-2018**
- Organized **“National Science Day”** on **28-02-2018** under Science forum
- Organized one day Seminar on **“Science in Engineering (SSE-2017)** on **15-12-2017 ”**, BIET Davangere
- Organized **“Technology barrier reduction program(TBRP)** from **24<sup>th</sup> April to 12<sup>th</sup> May 2017”** held at Bapuji Institute of engineering and technology, Davangere
- Organized **“Technology barrier reduction program(TBRP)”** held at Bapuji Institute of Engineering and Technology, Davangere from **18-4-16 to 6-5-16**

- Organized one day programme on “Ramanujan Mathematics awareness programme RMAP-2013”, BIET Davangere
- One day Workshop on “Mathematics & its Applications in Engineering” held on 18<sup>th</sup> Feb 2010 at Bapuji Institute of Engineering & Technology, Davangere.

## **RESPONSIBILITIES**

Worked as:

- Deputy internal in VTU examination panel.
- Coordinator for LEAD Cell, BIET, Davanagere.
- Chief Squad member for VTU examinations.
- External Deputy Chief Superintendent for VTU examinations.
- Assistant coordinator for IGNOU, BIET Centre, Davanagere.

## **List of Research Scholars working for Ph.D programme**

Name of Research Scholar	Sri. Anil Kumar K N
Department	Mathematics
Ph. D Thesis title	<b>“Analysis of Partial Geometric Structures through Degree Based Topological Indices”</b>
Registration Date	USN: 4BD16PGJ02 dated 03.11.2015
Institute – University	Visvesvaraya Technological University, Belgaum <b>Thesis submitted in 2021</b>

Name of Research Scholar	Sri Shanmukha M C
Department	Mathematics
Ph. D Thesis title	<b>“A Study on Graph Structures and their underlying Geometry through Topological Indices”</b>
Registration Date	USN: 4BD16PGJ03 dated 03.11.2015
Institute – University	Visvesvaraya Technological University, Belgaum <b>Awarded in 2021</b>

Name of Research Scholar	Smt. Mookambika V G
Department	Mathematics
Ph. D Thesis title	<b>“Impact of Geometry on the Study of Thermodynamics with Reference to Heat and Mass Transfer”</b>
Registration Date	USN: 4BD18PMA01 dated 08.02.2018
Institute – University	Visvesvaraya Technological University, Belgaum

## **SUBJECTS TAUGHT**

Engineering Mathematics I, Engineering Mathematics II, Engineering Mathematics III, Engineering Mathematics IV, Advanced Mathematics I, Advanced Mathematics II, Applied Mathematics (M. Tech), Calculus and Linear Algebra, Advanced Calculus and Numerical methods, Transform Calculus, Fourier Series And Numerical Techniques, Complex Analysis, Probability And Statistical Methods

**Ph.D. Thesis:** “A Study on Conservative & irrational curvature tensors”

Residential Address

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